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Following the experience of Elan [KM01], the Tom [MRV03] language was developed to provide rewrite tools for implementation of calculi, for compilation and for XML-transformations. We will focus here on the former. Tom provides a language to define a syntax (a signature) embedded into Java. Then, we can perform pattern matching with support of associative matching modulo neutral element (also known as list-matching). Finally, we can guide the application of rules with a strategy language defining term traversals (namely evaluation/rewriting strategies).

The originality of Tom is the combination of formal aspects with a general purpose language (such as Java). This combination leads to an agile language. At the same time, the strategy language inspired by Elan and Stratego [Vis01] gives the opportunity to reduce the code written in the general purpose language (and thus increase the formal parts).

We will illustrate the presentation by an implementation of the explicit rewriting calculus, introduced at the last WRLA [CFK04]. This running example will demonstrate the adequacy of Tom for such a development, offered by the integration in a general purpose language and by the strategy language.

References

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